VIRGINIA WILDLIFE

MARCH 2000 ONE DOLLAR

Director's Column

William L. Woodfin, Jr

We all know that the face of Virginia's landscape is changing to be more of a suburban environment. With this additional development, we also find that natural areas and farms have become even more vital to supporting wildlife populations in the Commonwealth. To encourage landowners to invest in wildlife habitat on their property, the Virginia Department of Game and Inland Fisheries (VDGIF) offers a number of programs. We show you how it works in the article "Of Oysters, Watermen, Cattle Ranchers, and Quail" in this issue. Readers will meet Jack Spigle, a cattle farmer in Botetourt County, with a passion for bobwhite quail.

I had the pleasure of visiting Mr. Spigle's place, Penn Farm, last summer. We were there to promote a wildlife habitat cost-sharing program sponsored by American Electric Power in conjunction with our Department. To see Jack's hard work and his spirit to enhance wildlife on his property was most impressive. With a long list of Jack Spigles out there to dedicate a portion of their land to wildlife, we would all be 1000 times richer.

If you are interested in joining the good work of Mr. Spigle, please take note of the sidebars with the article. One discusses plantings that provide food and nesting cover for quail, turkey, many songbirds and rabbits. The other sidebar outlines programs that help landowners make their property more wildlife friendly. Additionally, I would remind you that our Department should always be viewed as a resource to provide technical assistance to conservation-minded landowners. Our biologists can offer advice on a variety of wildlife habitat projects for a host of upland and wetland species.

While the Department of Game and Inland Fisheries manages more

than 185,000 acres for wildlife, that is but a small portion of the land in Virginia. Most of the Commonwealth is in private hands. The partnerships that we develop with landowners from across the state to put into practice a diversity of wildlife habitat enhancements are tremendous investments. With these collective partnerships, we will make a world of difference and a different world for our wildlife resources.

Mission Statement

To manage Virginia's wildlife and inland fish to maintain optimum populations of all species to serve the needs of the Commonwealth; to provide opportunity for all to enjoy wildlife, inland fish, boating and related outdoor recreation; to promote safety for persons and property in connection with boating, hunting and fishing.

Commonwealth of Virginia
James S. Gilmore III, Governor

HUNTING & FISHING LICENSE FEES
Subsidized this publication

Secretary of Natural Resources
John Paul Woodley, Jr.

Department of Game and Inland Fisheries
William L. Woodfin, Jr., Director

Members of the Board
J. Carson Quarles, Roanoke
Chairman
Cecil T. Campbell, Warrenton
Richard L. Corrigan, Arlington
Billy R. Cramer, Vienna
Jimmy Dean, Varina
Dan R. McCoy, Big Stone Gap
Charles G. McDaniel, Fredericksburg
Will McNeely, Charlottesville
Rickie L. Richards, Virginia Beach
Jack T. Shoosmith, Chester
Robert Wheeler, Crewe

Magazine Staff
Lee Walker, Editor
Mel White, Assistant Editor
Spike Knuth, Assistant Editor
Ron Messina, Assistant Editor
Emily Pels, Art Director
Carol Kushlak, Production Assistant
Marika Byrd,CPS, Office Manager
Staff Contributors: Marc Puckett

Color separations and printing by Nittany Valley Offset, State College, PA.

Virginia Wildlife (ISSN 0042 6792) is published monthly by the Virginia Department of Game and Inland Fisheries. Send all subscription orders and address changes to *Virginia Wildlife*, P. O. Box 7477, Red Oak, Iowa 51591-0477. Address all other communications concerning this publication to *Virginia Wildlife*, P.O. Box 11104, 4010 West Broad Street, Richmond, Virginia 23230-1104. Subscription rate is $10.00 for one year, $24.00 for three years; $1.00 per each back issue, subject to availability. Out-of-country rates are the same but must be paid in U.S. funds. **To subscribe, call toll-free (800) 710-9369.** Postmaster: Please send all address changes to *Virginia Wildlife*, P.O. Box 7477, Red Oak, Iowa 51591-0477. Postage for periodicals paid at Richmond, Virginia and additional entry offices.

Copyright 2000 by the Virginia Department of Game and Inland Fisheries. All rights reserved.

The Department of Game and Inland Fisheries shall afford to all persons an equal access to Department programs and facilities without regard to race, color, religion, national origin, disability, sex or age. If you believe that you have been discriminated against in any program, activity or facility, please write to: Virginia Department of Game and Inland Fisheries, ATTN: Compliance Officer, 4010 West Broad Street. P.O. Box 11104, Richmond, Virginia 23230-1104.

If you're one of Virginia's hardworking farmers or know someone who has a farm, then you don't want to miss "Of Oysters, Watermen, Cattle Ranchers, and Quail," found on page 6.

VIRGINIA WILDLIFE

Cover: The green tree frog *(Raba clamitans)*, is widespread throughout eastern North America. Photo by ©F. Eugene Hester.
Back cover: American goldfinch *(Carduelis tristis)* by ©Tom Evans.

Features

4 **Reelin' in Happy Kids** by Sally Mills
A special day of fishing brings families together in southwestern Virginia.

6 **Of Oysters, Watermen, Cattle Ranchers, and Quail** by Marc Puckett
Meet a cattle farmer who is bullish about protecting wildlife.

13 **Water: Cradle of Life** by King Montgomery
It's amazing what wonderful things one can learn by water watching.

18 **Fishing the New Millennium** by Jack Randolph
When it comes to freshwater fishing in the Old Dominion, the "good old days" are right now.

22 **Webbed Toes and Slimy Noses** by Lynda Richardson
A closeup and personal photographic essay with some of Virginia's most colorful and interesting reptilians.

March Journal

30 Journal
32 On The Water
33 Photo Tips
34 Recipes
35 Naturally Wild

Dedicated to the Conservation of Virginia's Wildlife and Natural Resources

VOLUME 61 NUMBER 3

©Dwight Dyke

pole for the morning and get plenty of help on bait choices and casting techniques from Department staff and family members.

The event kicks off at the Patterson Fire Hall in the morning, where coffee and breakfast treats await early risers. On the neatly cropped river bank, kids try their luck in a stretch of river stocked by the Department with trout. In addition to brown and rainbow trout, a patient angler might also pull in a smallmouth bass or a bluegill. All of this takes place with moms and dads, grandparents, and siblings looking

Game Warden Troy Phillips takes time to offer a little advice on how to bait a hook. Each year in the mountains of Buchanan County (bottom left), along the Dismal River, the local community of Oakwood comes together to offer kids a fun filled day of fishing.

Reelin' in Happy Kids

©Dwight Dyke

©Dwight Dyke

by Sally Mills

What do a red fire truck, an 18" bicycle, and a brown trout have in common? They are all part of a recipe that bakes up fun for kids of all ages during the annual fishing day in the mountains of Buchanan County.

Every spring, the Department of Game and Inland Fisheries teams up with local businesses, the area hunt club, and civic groups to sponsor a whopper of a family celebration on the banks of the Dismal River near the community of Oakwood. Last year the attendance blossomed yet again, to over 500 kids. Children aged 2 to 14 sport a fishing

on and lending a helping hand. According to Lt. William Rose, "The idea is to get kids outside, to strengthen their interest in the outdoors through fishing and make them aware of the beauty of nature."

After a few hours on the river bank, lunch is served up in the fire hall, followed by drawings and awards. The biggest prize: a lifetime

fishing license donated by the Dismal River Hunting Club. But the crowd continues to "ooh" and "aah" when a colorful display of bicycles is given away, along with tackle boxes, rods, and other fishing gear. Gifts are made possible through the generosity of the hunt club, local merchants, private individuals, and even the county board of supervisors.

One side effect is reaping huge payoffs in the form of Department goodwill. Kids and their parents spend a day with game wardens in a non-threatening environment. They come to realize the importance of the warden's role in outdoor safety and learn that wardens are trustworthy friends.

And goodwill permeates the entire community as the event is planned and organized. When different groups join forces, everyone recognizes a valuable synergy of all parts working together for the benefit of kids and their families. The

positive feelings carry forward throughout the year in Buchanan County and in nearby counties where the event also is held. As Junior Keen, president of Dismal River Hunt Club (a chief sponsor and organizer of the event) pointed out, "We wanted to see what we could do for kids. That's what it's all about anyway."

©Dwight Dyke

Over 500 smiling kids turned out for last year's event. After the kids have had a chance to reel in a few fish they are treated to a warm lunch. With tummies full and spirits high the day is brought to a close with an assortment of awards and prizes. Game Warden Lt. William Rose (top left) had the pleasure of presenting one of the lucky participants with a shiny new bike.

If one of last year's participants, 6-year-old Amanda Adkins, is any indication, they accomplished their mission well. Amanda summed it all up when she told me, "I liked it best when I caught a fish." Her mom confirmed that, even though she won a bicycle last year, she was just as excited over the first fish she caught at this event—a bluegill—this time around. □

Sally Mills is a freelance writer who lives in King and Queen County in the Middle Peninsula.

©Dwight Dyke

How one Botetourt County landowner is bringing soil, water, forest, and wildlife management together to make a model conservation farm.

Of Oysters, Watermen, Cattle Ranchers, and Quail

©Lynda Richardson

by Marc Puckett

I met Jack Spigle nearly three years ago. We spent the better part of a cold winter day touring his Botetourt County cattle farm. Focusing on Jack's face, it would have been easy to believe I was on a Montana ranch. Imagining his weathered face with a sweat-stained Stetson perched over it, I was momentarily plucked out of the Virginia mountains and deposited on the wind swept Bar K alongside a plains worn ranch hand riding fence. There was something, though, that did not quite fit—Jack's eyes. Clear, bright, and full of passion, they belied his 67 years. And, when he spoke of wildlife, there was something else—heartfelt sincerity and compassion.

"Marc, we used to have quail in Botetourt County, but they are scarce these days. I have grandkids now who have never seen one. I want them to know what wild quail are. I want them to see my bird dog on point on this farm." And that is partly why I was there. Obviously Jack loved all wildlife, but his eyes shone brightest when speaking of the bobwhite quail.

©Lynda Richardson

Cattle farmer Jack Spigle and wildlife biologist Marc Puckett discuss some of the benefits associated with participating in the Department of Game and Inland Fisheries' Bobwhite Quail Management Plan.

I was in my first year as a quail biologist hired to help implement the Department of Game and Inland Fisheries' (DGIF) fledgling Bobwhite Quail Management Plan. The Quail Plan called for, among other things, the establishment of quail habitat demonstration areas. We hoped to establish "demo" farms showcasing practical quail management throughout the Commonwealth. Jack's farm was highly recommended for this purpose by the Virginia Mountain Valley Chapter of Quail Unlimited.

Laying along the James River between Eagle Rock and Buchanan, Penn Farm's river bottom fields give way to rolling hills that form abutments to grand Appalachian ridges. It is a picturesque farm at its worst and downright spectacular on a colorful October afternoon. But Penn Farm is more than "just another pretty face." Jack and daughter Shelly Higginbotham run a cow/calf operation with 70 brood cows. Jack made it clear to me from the beginning that cattle were important and more than a hobby.

As we began our drive over Jack's farm, I looked around with a dim spirit. Searching for quail cover, all I saw were hayfields, pastures, and mature woodlands. These habitats would support cattle, deer, and groundhogs, but more would be needed if quail and associated "early-succession" species like rabbits, brown thrashers, and towhees were to flourish. These critters would need some brush land for cover along with weedy, bunch grass "patches" for nesting and brood rearing. With a sinking heart, I thought, "how can quail management work on a cattle farm?" I imagined woodlands so overgrazed

©Lynda Richardson

Jack Spigle and his daughter, Shelly Higginbotham, take pride in their farm. They hope it will be a model for others who are looking for a way to blend conventional farming with improved wildlife management, water quality, and soil conservation.

©Lynda Richardson

Planting certain types of plants and grasses aide in producing food and cover for quail and many other species of wildlife.

the browse line would withstand the scrutiny of a mechanical engineer, with cattle trails leading into every mud stained water source, and all available cover eaten with the exception of spiny multi-flora rose. Why had the Virginia Mountain Valley Chapter of Quail Unlimited recommended this farm with such determination?

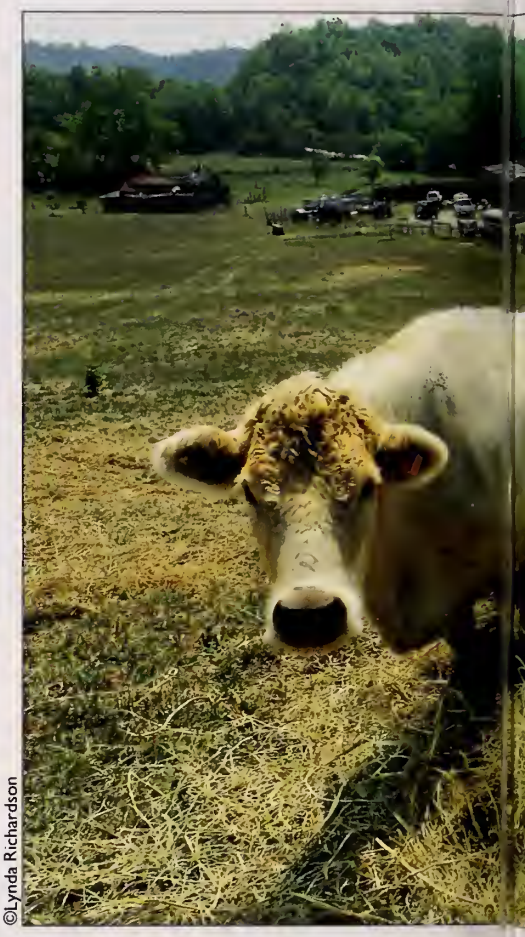
Throughout the day, one reason after another became apparent. It turned out that cattle ranching could accommodate soil, water, and wildlife conservation. How are oysters, clams, and striped bass related to a cattle farm in the mountains of Botetourt County? And, what could any of them have to do with restoring Virginia's quail population? I hope the following paragraphs will enlighten you.

Oysters, clams, and striped bass are all common to Virginia's storied Chesapeake Bay. For years the Chesapeake's bounty provided a good living for the area's "watermen." Though a hard life, much like farming, the Bay life was a good and honest one. Over the past 30 years, however, the Chesapeake life began to decline. The Bay's water quality deteriorated due to pollution from many different sources, a major one being non-point source pollution—a type that can come from water runoff on farms not practicing good soil conservation. Conservation professionals realized that a cleaner Chesapeake Bay would be accomplished one creek, one farm, and one landowner at a time.

Which brings us back to Jack. His farm borders the James River, the lower Chesapeake's main tributary. Jack's farm is becoming a model water quality and soil conservation farm. Over the last 15 years, an emphasis on cleaning up the Chesapeake Bay generated funding for use on local soil and water conservation projects. Jack explained to me that folks from the Mountain Castles Soil and Water Conservation District, the Natural Resources Conservation Service, and the Cooperative Extension Service helped him formulate a cross fencing, watering, and rotational grazing system that would insure streams coursing through his land would leave cleaner than they came in. The Bay benefits, Jack's cattle benefit and, as you will see, so does wildlife.

Here's how it works. You take a large unfenced pasture where cattle water in streams and graze freely, even in the surrounding woods. You begin by fencing them out of the creeks and providing them an alternative water source—one that is controllable, always clean, and surrounded by compacted gravel to prevent erosion. Next, you fence them out of the woods. Forest soils are fragile and prone to erosion when trampled and compacted. Additionally, cattle may consume valuable tree seedlings that would have become oak trees. And keeping them out of the woods makes the wildlife biologist happy, too. They do not eat all the deer forage. If the deer have more to eat in the woods, maybe they will not eat so much of the farmer's hay. And, the forest's

©Lynda Richardson



©Lynda Richardson

Improvements made by Jack and his daughter, Shelly, to their farm inclnde (top) leaving strips of ground cover along fields, pastures, and streams. They also limit the area (right) in which their cattle graze and practice rotational grazing.

shrub component, so important to many forest birds for nesting, will remain intact.

I felt a warmth in my head as we drove along. This was not just the effect of 3 cups of coffee. A light was beginning to come on. As we drove along the edge of one large pasture, it popped on as bright as the sun rising over the surrounding mountains. "Jack, if you are going to fence these woods out anyway, why not move the fence out into the field 25 to 30 feet and create an area between the fence and woods where you could manage for quail? At that width, going over 1700 feet would cost you only an acre of pasture. We could come in there with 3 or 4 rows of VA-70 lespedeza shrubs next to the woods and fill in the gap with Korean and kobe lespedeza. Something like that just might hold a covey of birds. You could do that along the fenced out creeks, too. I could fund some of that through our quail demonstration area program."

Jack just looked at me and smiled. "Well, yeah, that sounds like a fine idea," he said with a chuckle. I'm sure he had been wondering if I would ever figure it out.

Jack then explained rotational grazing to me. Watering systems would be centrally located in each field. Fields would then be fenced into 4 or 5 sections, with cattle in any section always having access to water. The cattle could be grazed in each "paddock" for a week or two, depending on the number of cattle and weather, then moved to another paddock before overgrazing occurred. Jack's cattle would always have access to lush forage, insuring good weight gain. By managing grazing pressure, soil compaction and erosion would be prevented. In addition, approximately 20 percent of the paddocks could be planted to native warm season grasses like big bluestem, indiangrass, and switchgrass. These grasses, all native to Virginia and common prior to settlement, provide fantastic summer grazing and haying land. While Virginia's most common cattle forage, fescue, does poorly under drought conditions like those experienced over the past three years, the warm season grasses flourish. Not only that, they make superior wildlife cover.

Bumblebee sized quail chicks, tiny rabbits, and many songbirds have a terrible time trying to forage and move through fescue's thick, matted growth. It is essentially useless from their perspective. Native warm season grasses, however, are known as bunch or clump grasses. Though they may appear thick from above, down at chick level the spaces between clumps provide what one DGIF biologist referred to as "quail interstate highways."

And so the day went, as the sun burned through the clouds above, one silver lining after another revealed itself on the ground. We found areas where fescue could be

©Lynda Richardson

Installing an automated watering system for his cattle has allowed Jack to fence off streams that run through his farm, which has helped to reduce erosion and water quality problems.

converted to orchardgrass and lespedeza, making fine hay, but also providing a quality feeding area for quail, rabbits, and songbirds. There was a river border where shrub plantings could be funded through the Natural Resources Conservation Service's Wildlife Habitat Incentives Program, and a powerline right-of-way that would become the kick-off point for American Electric Power's wildlife habitat cost-share program. As we bounced along Jack's farm road, I realized there were many resources available to landowners willing to investigate the possibilities. Many of the projects we discussed would be expensive, too. Luckily, society realized some time ago that, if cleaner water and more wildlife were desired for all to enjoy, landowners should not bear all the cost. Though Jack would have to spend considerably "out-of-pocket," there was enough cost-share available to make the entire project viable.

By the time Jack and I returned to his farm shop, the setting sun greeted us. It had been a good day. A fantastic conservation project was in the works. Though much planning and hard work would follow, we had a good feel for the trail ahead. One thing was now clear to me. Why had the Virginia Mountain Valley Chapter of Quail Unlimited recommended Penn Farm so strongly? There were many reasons, but the most obvious one rode in the truck beside me, Jack Spigle. All the conservation programs in the world mean nothing without conservation minded landowners. I could tell that Jack Spigle had the heart, compassion, and commitment to make Penn Farm, his farm, a conservation project to be proud of. And, one the watermen of the Chesapeake Bay should be thankful for. □

Marc Puckett is a wildlife biologist with the Department of Game and Inland Fisheries. He is currently involved in an intensive study on bobwhite quail in Virginia.

VIRGINIA
Department of Game & Inland Fisheries

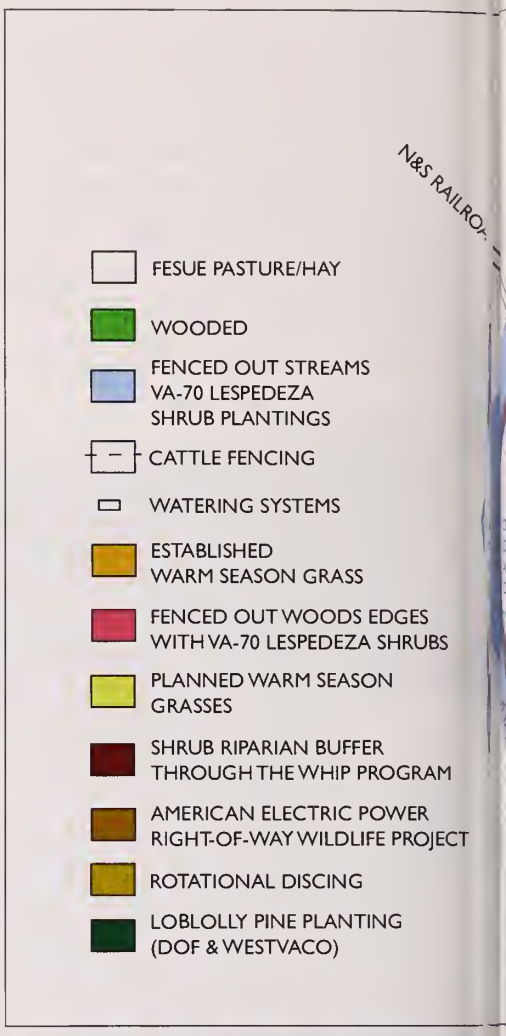
About Our Plantings

Quail management need not be fancy. In fact, just working with native annual weeds will accomplish most quail goals. However, supplemental plantings can give a project a boost up front, and in some cases, planted species can be more aesthetically pleasing than native weeds. We chose to give Jack's project a boost by using supplemental plantings. The following are descriptions of the plants we used including planting recommendations. Contact one of our offices for seed and seedling supplier lists. **Do not** plant any of the following seeds or seedlings into fescue. The fescue must be eradicated prior to planting other species.

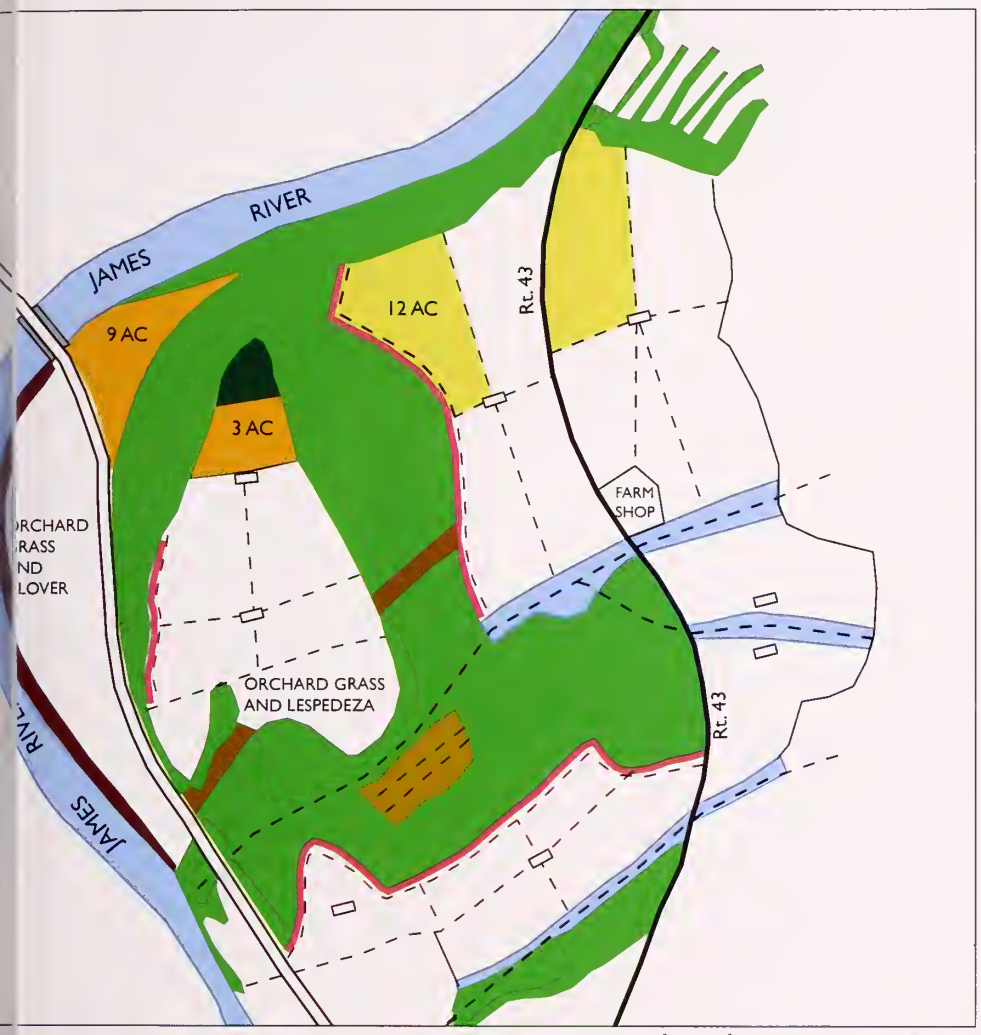
VA-70 Lespedeza
(Lespedeza thunburgii)

This perennial shrubby legume is very similar to one Virginians commonly call bi-color lespedeza. It was bred to be more deer resistant and slightly smaller than bi-color. It dies back in winter leaving a rough, woody stalk holding many seeds. These seeds will remain available throughout winter. It is a particularly good food source, when heavy snow is on the ground, as most of its seeds will be several feet above ground and it rarely lodges. Mature plants will be 6 to 8 feet tall. Thickets of VA-70 also make excellent quail and songbird cover.

These beneficial shrubs are usually planted as seedlings, or "slips." It is best to plant them in February or March. Along a field edge, plant 3 to 6 rows on a 3' x 3" spacing. They are commonly planted with a "dibble bar." It is hard manual labor, but the results will be rewarding. They may be planted by seed, too. Prepare a good seedbed by discing then allow the soil to settle. Broadcast seed 8 to



Group involvement and support is important. Left to right: Ted McAllister, AEP; Jack Spigle; Rodney Williams, NRCS; Sherry Marshall, Mountain Castles SWCD; Cecil Boone, Shelly Higginbotham; Watson Simmons; R. F. Mehan, MAC and Mike Smith, NRCS-volunteer.



Penn Farm located in Botetourt County. Map illustration by Pels. American Electric Power's Wildlife Habitat Cost-Sharing Program (left) assisted with power line rights-of-way.

10 pounds per acre in February or March. Follow seeding with a culti-packing or light dragging. Fertilize with 400 pounds per acre of 0-14-14.

Korean Lespedeza
(Lespedeza stipulacea)

Introduced many years ago from Korea, this low growing, reseeding annual is a preferred food for many quail during winter. It also provides good "bugging" areas for quail and turkey broods during the warm months. Korean lespedeza does very well on poor soils. It is also relatively inexpensive. It is ideal for sowing on logging decks, road edges, or around field borders.

Plant from 10 to 20 pounds per acre depending on the situation. On logging decks, where competition from grasses may not be severe, 10 pounds per acre will do fine. Around crop field edges, where competition from plants like crabgrass can be severe, use 15 to 20 pounds per acre. Prepare a seedbed by discing, broadcast seed in late-February, March, or early-April. Follow seeding by culti-packing or lightly dragging. Korean lespedeza may benefit from fertilization, but it is not required. Use 400 pounds per acre of 0-14-14 if you choose to fertilize.

Kobe Lespedeza
(Lespedeza striata)

Called common lespedeza by many, kobe is actually an import from Japan. It is very similar to Korean and planting recommendations are the same. It differs from Korean in that it does better on sandy soils—like many found in Virginia's coastal plain. In an area where soils vary from clay to sandy, plant a 50/50 mixture of Korean and kobe lespedeza.

Native Warm Season Grasses
(Panicum sp., Andropogon sp. and Sorgastrum sp.)

There are many species of native warm season grasses, but those most commonly used are Blackwell Switchgrass, Rountree Big Bluestem, and Rumsey Indiangrass. For wildlife, they are best planted in a mixture using 2 pounds of pure live seed of each variety per acre. They make excellent nesting cover for quail, turkey, many songbirds, and rabbits. They also provide more cover in winter than cool season grasses. If you are interested in them for hay and cattle forage, it is important to know that some varieties are better suited for these purposes than others. They require special considerations and equipment for planting. For these reasons, you should consult a professional with experience in warm season grass establishment to assist you throughout the process. A representative from the Department of Game and Inland Fisheries will be happy to help you. We also provide planting equip-

ment at no charge. Contact the Department for more information.

You Don't Have to "Go It Alone"

Wildlife habitat projects can be expensive. Seed, herbicide, equipment time—all these costs mount quickly. There is help available, though, to those willing to investigate. Funding varies from year to year, but if you look around you are likely to find a little "green" help. One thing is certain, if you don't apply for cost-share; you surely will not receive any! The following is a list of cost-share programs and contacts:

State Programs

Virginia Agricultural Best Management Practices Program:

Traditional funding is available for fencing out waterways, installing watering systems, and many more. There are three wildlife options available—idle land, field borders, and conversion of fescue to native warm season grasses. The Department works in conjunction with the local Soil and Water Conservation Districts to administer the wildlife practices. Funding for wildlife practices should be available again by summer's end. Contact your local Soil and Water Conservation District, usually located in the United States Dept. of Agriculture's (USDA) local Service Centers (USDA Service Center).

Virginia Best Management Practices Tax Credit Program

Those landowners installing agricultural best management practices may be eligible for a tax credit of up to 25 percent of the cost on the first $70,000 of improvements. Contact your local Soil and Water Conservation District (USDA Service Center).

Federal Programs (USDA)

Conservation Reserve Program

The Conservation Reserve Program was designed primarily to prevent soil erosion and conserve valuable agricultural lands. It has undergone some changes since its inception 15 years ago. There are several sub-programs under CRP. Practices are too numerous to mention here, but include establishment of warm season grasses, cool season grass and legume mixtures, field borders, and buffer strips. Contact your local Consolidated Farm Services Agency (USDA Service Center).

Conservation Reserve Enhancement Program

The Conservation Reserve Enhancement Program does just what it says, enhances the existing CRP program. The CREP is designed primarily to promote filter strips and buffers along bodies of water including; lakes, streams, rivers, ponds, and agricultural drainage ditches and canals. The land does not have to be classified as highly erodible to qualify. The program is not yet on line in Virginia, but should be soon. It promises a healthy incentive payment rate. Contact your local Natural Resources Conservation Service (NRCS) office (USDA Service Center).

Wildlife Habitat Incentives Program

Designed specifically for wildlife, the Wildlife Habitat Incentives Program (WHIP) pays 75 percent of the establishment costs for wildlife friendly practices like field borders, hedgerows, fescue conversion to native warm season grasses, strip discing, and controlled burning. The WHIP program is currently on hold pending further funding, but should return with renewed vigor soon. You can still apply now so your application will be ready when funding returns. Contact your local NRCS at the USDA Service Center.

Private Organizations

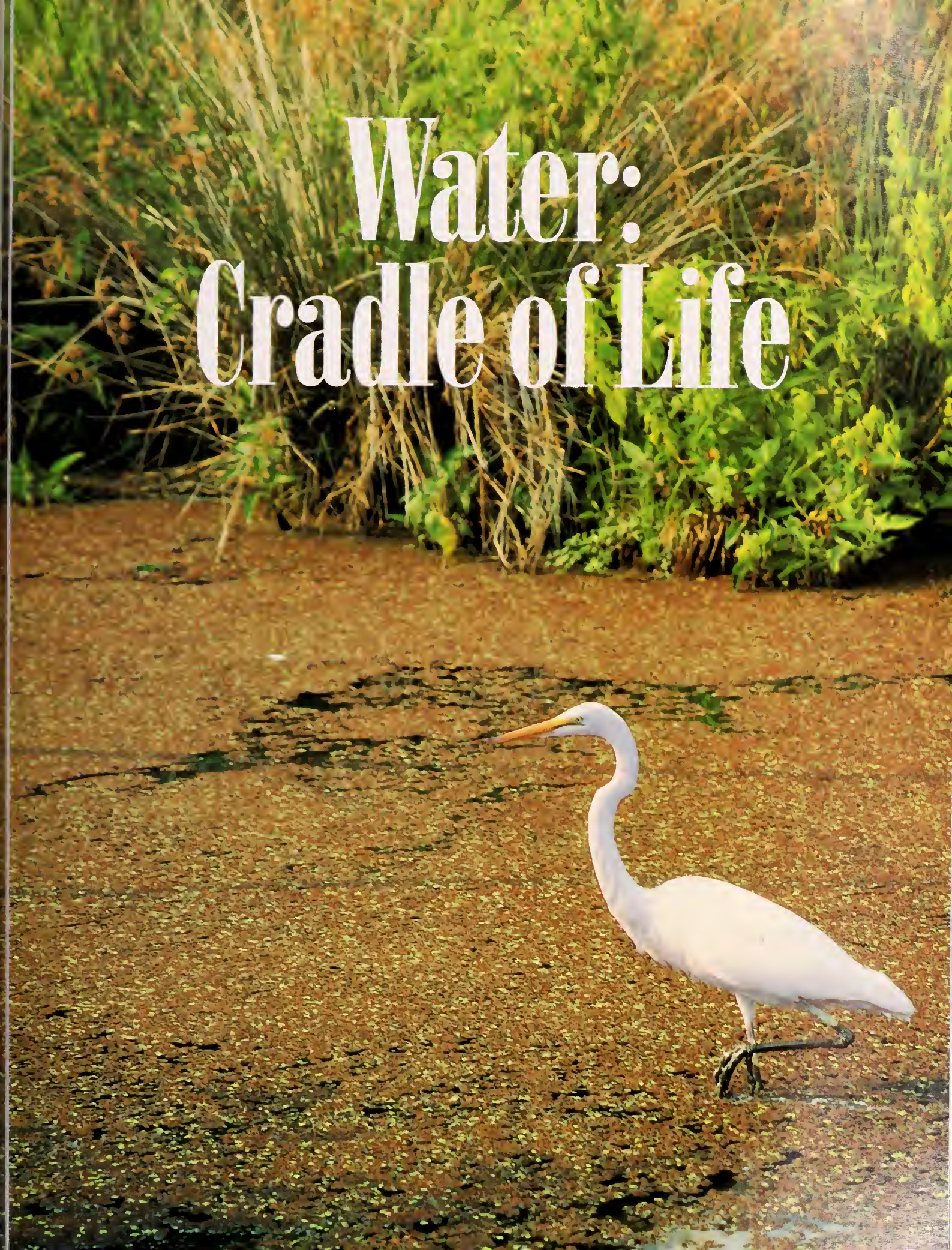
American Electric Power, Wildlife Enhancement on Power Line Rights-of-Way

Beginning in June of 1999, American Electric Power began a joint wildlife habitat cost-sharing program in conjunction with the Department. Eligible lands must be in Virginia, be traversed by an AEP transmission (large double poles) line and currently have woody vegetation with the potential for tall growth. Up to $300 per acre is available with a maximum payment of $2000 per landowner. An additional $100 per acre is available to landowners who agree to maintain the right-of-way for two years. Contact a Virginia Department of Game and Inland Fisheries representative to initiate the process.

- These are the primary programs available for upland habitats. Private organizations like Quail Unlimited offer reduced seed prices to members interested in doing habitat work without government involvement. There are other programs that involve wetlands, some through the same contacts listed above and others through private organizations like Ducks Unlimited.

- The Department of Game and Inland Fisheries offers technical assistance to any interested party. This includes advice on managing for a host of upland and wetland species. Some equipment is available as well including; small spray rigs for attachment to 4-wheelers, spin seeders for attachment to 4-wheelers, trailers outfitted to support controlled burning and warm season grass drills.

Water: Cradle of Life



Brook trout (*Salvelinus fontinalis*)

King rail (*Rallus elegans*)

written & photographed
by King Montgomery

They no sooner struggled free from confinement and rose up, than they were assaulted and killed. Decimated. While a few escaped the relentless onslaught, most perished in a grisly manner. But the carnage serves to remind us that death is an integral part of life, and that all living creatures are inextricably bound with invisible threads; what happens to one affects what happens to all.

I sat mesmerized, observing the grim spectacle on the mountain stream. The cedar waxwings perched in the trees along the banks watched while the emerging mayflies fought to shed their nymphal husks. Brown trout stationed themselves in current lanes and, while some concentrated on eating the nymphs as they swam to the surface, others sipped the duns that floated along drying their wings enough to carry them skyward. The mayflies—these are known as "Sulphurs" for their tawny yellow hue— that survived to take flight were gobbled in mid-air by the ravenous waxwings.

But enough of the insects escaped to accomplish their life's mission. They spend a day or two in the nearby bushes and trees while sexually maturing. Then they perform their mating dance over the gurgling stream and, after the female lays her eggs on the water, the spent flies fall and become fish food once again. The eggs sink to the bottom and, sometime later, those that aren't buried by sediment, destroyed by pollution, or eaten by a myriad of creatures, become nymphs and the cycle begins anew. The process is

Mayfly (*Isonychia family*)

fascinating to think about, and even more so to witness.

Water is generally believed to be the source of all life, the primordial medium where life was born. Our world and our bodies are over 75 percent water. Pretty important stuff. That two very light and invisible gases can combine in the proper proportion and form the most significant liquid on earth is amazing. It is no wonder that mankind has been watching water for a very long time. Watching water is still one of my favorite pastimes.

Back in school, I remember looking at a tiny drop of pond water in a microscope. There was more *life* in that little drop of water than there is in the town where I now live. Single- and multi-celled animals and plants floated, swam, or flagellated from one side of the glass slide to the other. Add a little stain and the creatures took on whatever color was introduced. These days, I take my water watching in larger doses, usually while fishing or hiking along a stream or sitting by a pond or lake.

My friend Hank, whom I visit now and then when I need to be reminded of the more contemplative aspects of life, has a way with words. He uses language like a master artist uses oils, and he too paints beautiful images, particularly of natural things and events. He's fun to listen to on a cold winter's evening, a real wood fire crackling in a real fireplace. Recently, we've been discussing the wonders of water in all its various forms, and the marvelous world in and around it. Hank does most of the talking in his inimitable, somewhat old-fashioned way, and I'm only too glad to listen and learn. While we don't always agree, he says neat things like: "A lake is the landscape's most beautiful and expressive feature. It is earth's eye; looking into which the beholder measures the depths of his own nature."

I often talk to myself while on or near the water and, although I can see and understand Hank's point, most of my attention is focused, not

on the depths of my own nature, but on the water creatures themselves. When near water, I always have my camera ready and, while it's impossible to photograph your soul, an obliging frog, fish, squirrel, or butterfly that holds its pose is another story.

Dragons & Damsels

While delving the depths of your own nature, take a look around at a body of water—a small urban pond will do—and see what Mother Nature has to offer to the senses. On a macro-look, various water and shore birds are probably the most obvious occupants of the system: the ducks, geese, herons, egrets, and the occasional rails are the more prevalent in the Commonwealth of Virginia where I do most of my water-watching.

Cardinal flower (*Lobelia cardinalis*)

The margins of ponds, lakes, and streams are lined by terrestrial plants that merge with aquatic vegetation, both inhabited by water and land creatures that fit into specific niches within the ecosystem—an organization of living things. Narrow your gaze. Study a section of water and its bank, a few square meters of real estate at most. What was that buzzing, frenetic creature that hovers like a helicopter? Probably one of the 5,000 species of dragon- and damselflies that inhabit the earth. These amazing and often very colorful insects are among the fastest flying and most predacious insects: an adult dragonfly can eat its weight in smaller insects, such as mosquitos, in 30 minutes.

Damsels and dragons live near water because that is where they find food, reproduce, and lay their eggs. In the water, dragonfly larva molt from about 8 to 15 times, depending on the species, through a corresponding number of stages. The earlier nymphal stages feed on single-cell and simple small water animals. The later, more advanced stages feed on small fish, other insects, and crustaceans. Eventually the larvae climb from the water onto shoreline plants and molt, releasing fully-formed adults. The adults mature, feed, mate, and the female delivers her eggs to the water, where they sink to the bottom to begin the cycle anew. At all stages of their life cycle, these creatures are fish food.

Eastern pondhawk dragonfly (*Erythemis simplicicollis*)

Birds of a Feather

The shrubs and trees around water, decorated with colorful wildflowers, are home to songbirds, woodpeckers and flickers, scavengers and, sometimes, bald eagles, but here the waterfowl and shorebirds dominate. In recent years, the plentiful Canada geese and, to a lesser extent, mallard ducks, have taken over the watery environs, particularly in urban ponds and lakes. Golf water hazards, water supply reservoirs, the decorative pond in front of city hall, and other not-so-wild places draw these large and interesting birds like magnets. Many fear we have tinkered with their lives so much, their burgeoning numbers could threaten their continued survival as they increasingly overpopulate their habitat. It's a danger our own species faces as well.

Fortunately, the herons and their egret cousins, once threatened by our encroachment and lack of concern for their habitat, flourish and are often seen in the shallows searching for a meal. These majestic birds, looking like primeval pterodactyls when they take wing, are fascinating to watch; their prowess as anglers is the result of their stealth

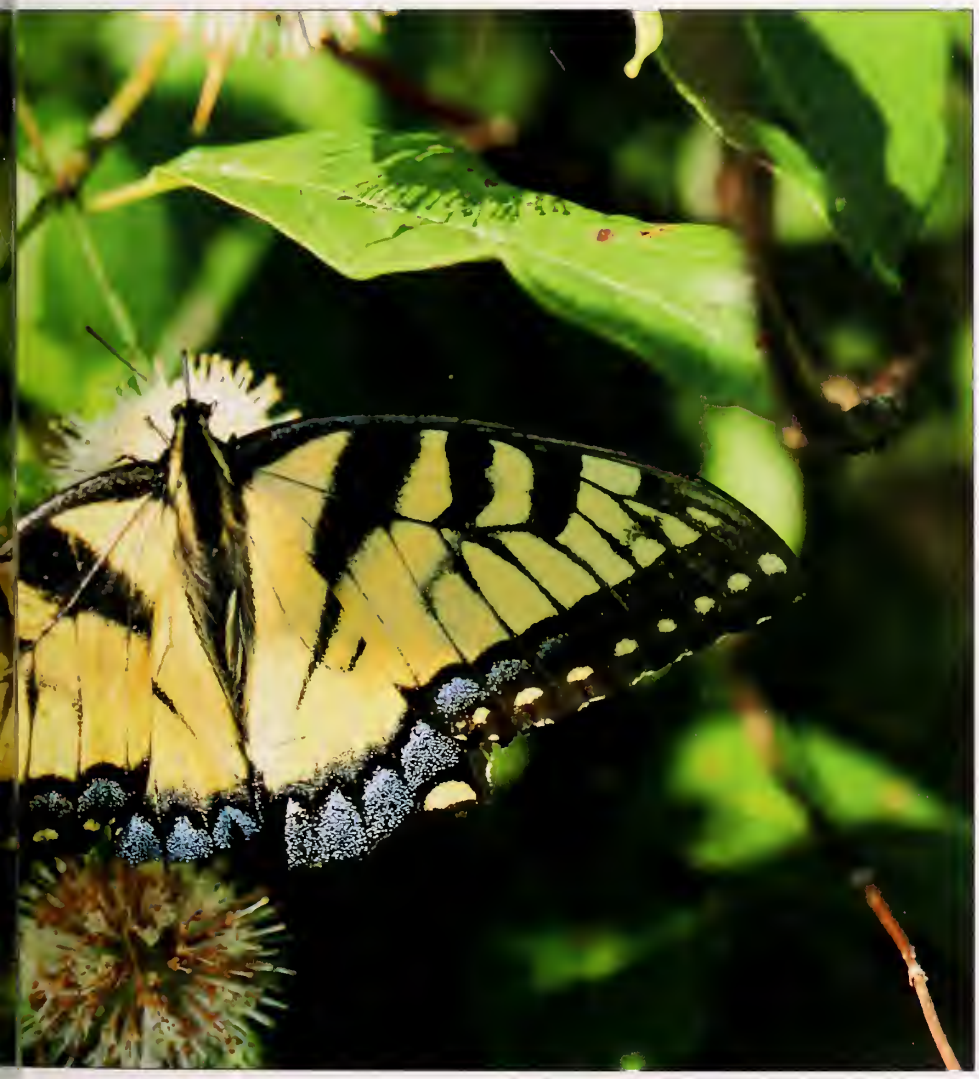
Eastern tiger swallowtail butterfly (*Papilio glaucus*)

and patience. I could probably catch more fish with my fly rod if I followed their example.

Mallards and other ducks, like the geese, course the water in search of food, the more colorful males often joining others of their sex. They will rejoin their female companions—they mate for life with the same partner—when the foraging is done. During mating season they are inseparable, and both sexes share in raising, nurturing, and protecting their offspring.

The Magic Medium

Water takes three physical forms depending on conditions: it can be a gas or vapor, a liquid, or a solid. And water continually progresses in a cycle through its three lives, or as Hank phrases his experience of winter water-watching: "Ere long, not only on these banks, but on every hill and plain and in every hollow, the frost comes out of the ground like a dormant quadruped from its burrow, and seeks the sea with music, or migrates to other climes in clouds."



It is amazing that the water in your garden pond, yours today as a liquid, freezes solid overnight and, a week later might flow into the sea or fall on a mountain on the other side of the world. And, wherever it goes, or whatever it does, water sustains life, except where we have filled it with silt or poison. Like the spider webs that line a lake's banks when aquatic insects are hatching, water is entwined in all living things, from the simplest to the most complex creatures.

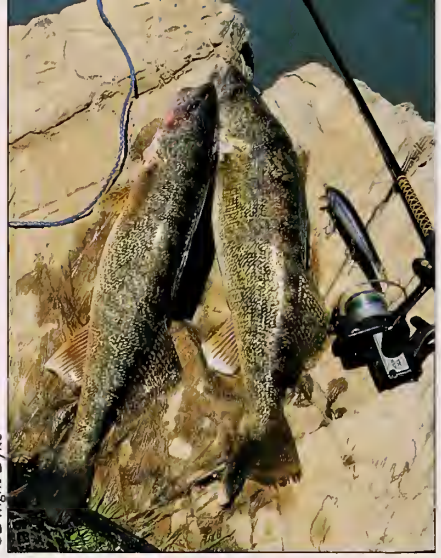
Our affinity with water draws us to it, both because of our current dependency on it and our remote origins in it. Water has as many moods as we do, and it connects us with the never-ending cycle of living and dying that takes place in and near it. Despite our veneer of "civilization," we are an animal species too, and we still come to water when the breeze ruffles the tranquil surface—wet, wild, and wonderful.

"We need the tonic of wildness," remarks Hank, referring to what he's learned at his favorite water-watching place, "—to wade sometimes in marshes where the bittern and the meadow-hen lurk, and hear the booming of the snipe; to smell the whispering sedge where only some wilder and more solitary fowl builds her nest…"

So the next time you are near water, sit down at its edge or lean quietly against a nearby tree. Drop your gaze from the indistinct far shore to the small area nearest you. You will be mesmerized, and truly amazed at the natural wonders the water has to share. ☐

Freelance outdoor writer/photographer King Montgomery's friend, Hank, is Henry David Thoreau. The passages quoted above are from Walden, *published in 1854.*

Virginia offers a wealth of fishing opportunities, and for anglers across the state the forecast for the new year looks like a bright one.


©Dwight Dyke

Fishing the New Mi

by Jack Randolph

Let's face it. The fast approaching fishing season is just another year. Despite all the hype about a new century, and the next thousand years, what we have before us is another 12 months of wonderful fishing.

When it comes to freshwater fishing here in the Old Dominion the "good old days" are right now. You don't have to be too old to remember when most of our fishing was confined to a few rivers and private ponds across the Commonwealth. There were no reports of 16-pound largemouth bass, 40-pound striped bass, and 40-pound muskies. No one dared dream of catfish weighing 60 or 70 pounds or of brown trout weighing 10 pounds or more. Thanks to the construction of new reservoirs and the application of modern fisheries management, all of these things are with us today.

When one stands here, at the start of the new millennium, and peers ahead 12 months, what does he see? I see another year of great fishing. Doing the Virginia Freshwater Fishing Report each week for quite a few years I have been privileged to talk with folks across the state, who are on the front lines of Virginia's freshwater fishing, and it is from them that I have gained the insights I'm about to share with you.

Region 1 takes in much of Virginia's Tidewater from the Peninsula south. It includes the famous Suffolk Lakes, the Chickahominy, and waters around Williamsburg, Gloucester, and the James River, along with the Mattaponi and the Pamunkey.

In this region the Chickahominy has been on a roll. The tidal waters below the dam are producing larger and larger blue catfish, some as heavy as 50 pounds. Above Walkers Dam the bass and pickerel fishing has been phenomenal, and I expect it to continue. Crappie and bream fishing here will also continue to be first rate.

Little Creek Reservoir in Toano is producing larger and larger striped bass. The lake record for stripers hit 15 pounds last year, although the average was about 6 pounds. Look for continuing good striped bass fishing here.

For bass Beaverdam Reservoir, in

©Dwight Dyke

There's no shortage of great angling opportunities in Virginia, whether it's terrific tasting walleyes at Claytor Lake (top), largemouth bass at Beaverdam Reservoir in Gloucester County (above), or scale-busting striped bass (right) at Smith Mountain Lake.

lennium

Gloucester County, is a good bet. Quite a few 6 and 7 pound bass were caught here last year along with some respectable crappie. Look for bass fishing to improve here during 2000.

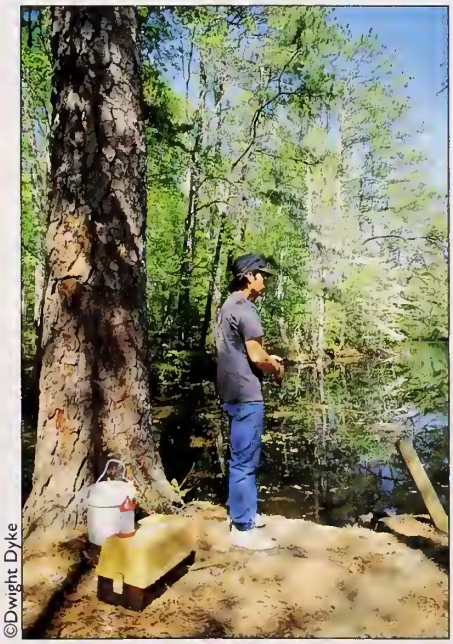
The Suffolk Lakes, particularly Lakes Prince and Western Branch, have well earned reputations for large redear sunfish, otherwise known as shellcrackers. Both lakes are expected to be hot again this year, and nearby Lake Meade is also hosting a good shellcracker population. Lake Meade continues to be a dark horse for landlocked stripers, but the larger ones will continue to be found in Prince and Western Branch.

Finally, we must reckon with the tidal James River, from Richmond to Surry, where the big blue catfish are found. The epicenter of this action continues to be Dutch Gap to Hopewell, in both the James and Appomattox rivers. A blue cat topping just over 71 pounds was caught last fall, and many anglers say there are much larger ones still to be caught swimming in the river.

In Region 2, which encompasses most of Southside Virginia, look for Buggs Island Lake to continue offering good bass action, but don't overlook the excellent striped bass and crappie fishing and the big blue and flathead catfish found here. Flatheads and walleyes are also a good bet in the Staunton River.

©Dwight Dyke

John W. Flannagan Reservoir is located in Virginia's far southwestern tip in Dickenson County. This 1,143-acre impoundment has a little of everything including crappie, walleye, largemouth and smallmouth bass, and good eating size catfish. Prince Lake in Suffolk (below) is well-known as one of the best places in the state for catching trophy sunfish.


©Dwight Dyke

Bass continue to be the featured fish at Lake Gaston, but this lake also produces a few big blue catfish, nice crappie, and good-sized striped bass. Look to Gaston for continued consistent bass fishing.

At Smith Mountain Lake the bass fishing is often eclipsed by the striped bass fishing and this is a distortion. There is very good bass fishing available here. This lake offers excellent night fishing for bass during the summer. Of course, Smith Mountain Lake produces the largest landlocked striped bass in Virginia, a title it is not expected to surrender anytime soon.

In Region 3 keep an eye on Claytor Lake. This lake has been stocked with hard-fighting hybrid striped bass and they are growing like crazy. Some as heavy as 10 pounds were caught last year. Claytor is also prime water for largemouth and smallmouth bass, walleyes, striped bass, flathead catfish, and the odd musky or two.

Another body of water stocked with hybrid stripers is Flannagan Reservoir. The hybrids are still small, but they too, are growing fast. The walleye fishing, although, is worth keeping your eye on.

In Region 4 a very dry 1999 took its toll on Lake Moomaw. The water level fell to 27 feet below normal full pool by autumn, severely restricting the number of boats that could be launched. This cut heavily into the fishing pressure last fall, which could mean better fishing this spring when the water level returns to normal. In addition to producing the state's largest brown trout, the lake is known for its large yellow perch, crappie, and the occasional northern pike. The bass fishing can also be very good here.

In Region 5 Lake Chesdin's striped bass fishing should draw more and more attention. Stripers over 20 pounds were caught here last year, along with some very nice largemouth. Chesdin also hosts a fine walleye population, but the best fishing for them was on the Appomattox River above the lake during

the spring spawning run or on the lake at night during the summer.

Lake Anna is probably the best bass water in the region and it should continue to produce good catches of bass again this year. Anna's striped bass fishery has also been very consistent, particularly for stripers under 10 pounds.

The tidal reaches of the Rappahannock River, particularly in the vicinity of Port Royal, are among the best largemouth bass waters in the Commonwealth. Tournament fishermen averaged close to 3 pounds per bass during many tournaments last year. The fishing for big blue catfish fell a little below expectations last season, possibly due to the drought, which apparently moved many of them well upstream. If weather conditions are closer to normal, we can expect continued good bass fishing and some improved catfish action here.

Across the state the smallmouth bass fishing suffered considerably from low water conditions last year. The low, clear waters led to tricky fishing. If the water conditions approach normal this coming year, we should see pretty good fishing.

So that's about it. All I can see in my crystal ball is fish swimming about. I hope that a good share of them end up at the end of your line as we make the first casts of the next thousand years. □

Each week Jack Randolph reports for a variety of newspapers and radio stations about Virginia's outdoors, and prides himself as being the eyes and ears of hunters and anglers across the state.

For a list of fishing opportunities in Virginia, write for your free copy of *The Virginia Freshwater Fishing Guide*. Send requests to: The Department of Game and Inland Fisheries, Information Office, P. O. Box 11104, Richmond, VA 23230-1104.

©Dwight Dyke

At 9,600 acres, Lake Anna is an angler's dream. Since the lake was impounded in 1972, it has become a hot spot for largemouth bass and stripers. Its central location makes it an easy drive if you're coming from the Tidewater or Northern Virginia area.

Webbed Toes a

written and photographed
by Lynda Richardson

As the frosty remnants of winter slowly relinquish their grip on the wetlands and forests of Virginia, a small group of the most unlikely creatures is busily preparing for their once a year get together. Mushy wetlands and small vernal pools, which might have been iced over all winter, now provide a hot spot for these cold blooded critters.

Spring. The time when various species of salamander and frog make their way to these unassuming wet areas for the sole purpose of recreating their kind.

By the time spring flowers begin to poke their heads toward the sun, much of the chaos is over. Masses of clear "jelly" spotted with black specks of life are scattered throughout the once again quiet water holes. The black larvae wriggle in the warming sun and soon break free of their nursery. Eventually they grow large enough to leave the safety of the water, but despite nearly a year of terrestrial life they return to the waters of their birth to fulfill their destiny. A cycle which repeats itself every spring...quietly, sometimes under the cover of darkness, sometimes at noon. Listen and you can hear their songs of celebration.

It's amazing to see and hear the great variety of amphibians we have in Virginia. To honor the awakening of this family of creatures I have created a photo essay. I have pulled together some of my favorite salamander, frog, and toad images and have included little bits of information and stories behind the photographs. I hope that you will enjoy this photo

continued on page 24

Spring Peeper

Pseudacris (Hyla) crucifer
above

Though wood frogs are really the first to begin the spring ritual, it is the spring peepers who first announce their presence around my home. This tiny frog, not quite an inch long, alertly watches to see when he can get away from me. I captured this peeper near my house and brought him in for a photo shoot in my dining room. Look into his eye and see if you can guess what type of lighting I used. I made a natural scene and set up two studio strobes using two umbrellas (see them in his eye?). After a short session, Mr. Peeper was returned to the spot where I caught him so he could continue his springtime mission. This photograph was shot on Kodachrome 64 slide film.

Marbled Salamander

Ambystoma opacum
right

This is one of my favorite photographs and everyone who sees it asks, "Did you place that salamander on that leaf?" Well, yes and no. I had an assignment to photograph various salamanders for a book. One of the salamanders I needed was a marbled salamander so I went to an area where I knew loads of the pretty little critters lived. It was fall when I began my search and as I rooted around under logs and leaf litter I noticed the neon red leaves of a black tupelo tree and made a mental note how good they might look as a background if I found one of my subjects. Within a few minutes I found a beautiful salamander and so I picked her up and grabbed a few red leaves and looked for a nice spot to begin my photo session. I spotted a cool gray rock and placed the salamander

nd Slimy Noses

and leaves on the rock and began to compose a shot. My shy subject wasn't very cooperative. She wasn't comfortable with the working conditions and constantly walked off the set. I was able to fire one or two frames but constantly had to stop and catch the energetic critter and guide her back into the scene. As this progressed I slowly removed leaves from the set until finally there were only a few. At one point the salamander marched onto the single leaf and in the shock of recognition of a great photo I was able to fire off several frames before she continued on her way. Realizing what a great shot I'd just taken I wanted to re-create it so I tried to re-pose her on the leaf. It was impossible. The more I tried to get her to stay on the leaf the more she didn't want to…so finally I gave up and returned her to her cozy nest under a rotten log. Hand holding a 100mm macro in overcast light, once again gave me minimal depth-of-field so I probably shot this picture at 90th of a second at f5.6. using Fujichrome 50. Be sure to check out the patterns on her back. Wouldn't a better name for this salamander be the "dog bone" salamander?

continued from page 22

essay as much as I enjoyed shooting these photographs over the years. I also hope that this essay will inspire you to do the same...or at least, even if it's only for one night, to step out into the chilled air of a wetland and listen to the eager calls of the tiny spring peeper. Enjoy!

The following photographs were taken under various conditions. Some were shot down and dirty in the wilds of a wetland swamp while others were photographed under more controlled conditions using a studio set, special lighting or an aquarium or squeeze tank. See if you can tell which is which before reading the caption! All images, except one, were taken with a Canon 100mm f4.0 macro lens. I used Canon F-1 and T-90 cameras. ☐

Studio Set

below

My lighting setups and scenes varied greatly, but this will give you the basic idea of how I worked. Note the umbrella on the left. Sometimes I used two umbrellas. If I wanted to avoid having umbrella shaped reflections in the eyes I tried to use other means of lighting such as bouncing the light on a wall (see the light on the right) or ceiling or a white card. Those Dynalite strobes packed a good bit of power and could light up the room. My only problem was, as you can imagine, shy, wiggly, leaping subjects. Since amphibians are delicate creatures and should be handled minimum at best I constantly had to be aware of keeping them moist and happy. (Note the water spray bottle and "worms" jar.) This particular salamander was someone's pet so it was used to being handled.

Spotted Salamander

Ambystoma maculatum
top right

Spotted salamanders are also early breeders and are known for traveling "in mass" to local water holes. This photograph was also shot "under controlled conditions" and I've included a shot of one of my "sets" so you could see exactly how I set things up. This shot was also made on Kodachrome 64 film.

Eastern Tiger Salamander

Ambystoma tigrinum
bottom right

Eastern tiger salamanders are classified as endangered in Virginia so I had to travel to a secret site with a biologist who had a permit to handle these large salamanders during the breeding season. I set up an aquarium nearby and had the biologist fill it with appropriate tiger salamander breeding habitat and the shooting began. "Tigers" are only underwater for the short spring breeding season and the rest of the time they are very shy land dwellers. The biologist watched me and his charge and once I got the shots I needed we released it back into the pool where we'd captured it. This tiger was captured on Kodachrome 64.

American Toad
Bufo americanus
below

This American toad was a personal friend of mine. He lived in my backyard and I usually saw him when I was pulling weeds along the back part of the garden. I'd always toss him a fat juicy worm. One day, I spotted him in the violets. I ran inside to get my camera and returned to lay down flat on my stomach for an eye-to-eye shot of him enjoying the flowers. Just after I snapped the first two frames a tiny insect landed right on his eye. I was so excited and worried that I'd miss the shot that I started shaking. Jittery hand holding of a camera in low overcast light using Kodachrome 64 almost prevented me from getting a usable shot. Notice the very limited depth-of-field. (I think this was shot at f4.5) But I was happy with the results. A beautiful portrait of my favorite amphibian gardening buddy!

Red-Spotted Newt
Notophthalmus viridescens
below

In one vernal pool red-spotted newts were breeding like crazy so I grabbed one and shot a bunch of pictures using a "squeeze tank" (a thin portable aquarium...which is easy to make!) Since the ponds where we were finding these critters were covered in dead leaves I just used leaves in my set up. Again, Kodachrome 64 was the film of choice.

Northern Cricket Frog With Damselfly

Acris crepitans
above

I was wading along the shoreline of a pond near my home looking for photo subjects when a sudden movement caught my eye. As I turned I spotted this cute little northern cricket frog in the throes of subduing a damselfly. Fortunately, I was prepared with my T-90 and 100mm macro in hand. I knelt down slowly as I watched the frog continue to gobble the busy bug and finally, kneeling in the water, I was almost eye level with the frog. The damselfly was almost gone but I was able to get several shots on Fuji Velvia slide film.

Green Tree Frog

Hyla cinerea
right

I spotted this green tree frog with my binoculars. The vegetation was so thick that I couldn't get any closer so I had to use my 500mm f4.5 lens on a tripod to capture the shot. This photograph was taken with Fujichrome 50 and it was really tricky to decide on the exposure. I decided to meter for the bright sun (250 at f8.0) and open up a half stop. I believe that the actual exposure was 125th of a second at f 8.0 because I wanted to maintain a decent depth-of-field.

Mabee's Salamander
Ambystoma mabeei
left

One thing I needed to photograph for the amphibian book project was the undersides of particularly colorful salamanders. Now how was I supposed to do that? I decided to try and photograph a Mabee's salamander from a worm's perspective so I got a piece of glass and washed it off with water but kept it damp enough to be comfortable for the salamander. I set the glass so that each end rested on the back of two chairs of the same height. Then, I got two Vivitar 283 flashes with Varipower modules (slaving one with a Weiss peanut slave) and placed them at 45 degree angles to the glass from underneath. (I think I duct taped them to the chairs.) I retrieved the salamander from its holding container and placed it on top of the glass and quickly dove underneath between the two chairs and shot upwards, into the under belly of the salamander. This is the shot I came up with! This was shot on Kodachrome 64.

Fowler's Toad
Bufo woodhousei fowleri
top

The Fowler's toad is one of the prettiest of the toads and this cutie was no acception. Here it was hiding among fall colored tulip poplar leaves and after carefully moving a few, I was able to get this shot. Kodachrome 64 was the film.

Three-lined Salamander

Eurycea longicauda guttolineata
below

This lovely three-lined salamander knew it was pretty. It posed proudly showing off its lovely long tail and bold stripes. My assignment was to shoot the critter in such a manner that showed its back, side, and the length of its tail in relation to its body, all in one shot. Since I needed loads of control and depth-of-field I chose to shoot this picture as a studio set up.

Bull Frog

Rana catesbeiana
above

Last but not least is another one of my all time favorite shots. One day I was walking around a Browning-Ferris Industries site near Richmond, Virginia and came across a small pond covered in green algae. I didn't think much about it at first but there was something about it that kept my eyes wandering back and forth across the neon green surface. What were all those golden yellow dots scattered over the surface...that's strange. And suddenly it hit me. Hundreds of bullfrogs escaping from the drought had all gathered in one of the last remaining ponds around! I had to get a photograph somehow. Cruising along the water's edge I spotted my subject. Down on my hands and knees into the mushy slime I went and it was nasty but worth every minute of it. Don't you agree? I left a lot of space near the top because I saw this image as a possible cover for a magazine and was leaving room for drop-in type.

Anglers Reel in Some Big Surprises

by Kirk Rundle

A recent creel survey conducted by fisheries biologists of the Virginia Department of Game and Inland Fisheries shows anglers are spending some serious time and money, pursuing fish at Smith Mountain Lake.

From February 1998 through January 1999, anglers spent 282,517 hours fishing for black bass, which included largemouth and smallmouth bass. This accounted for 44 percent of all fishing effort on the lake, making black bass the most sought after species. The average weight of largemouth bass harvested during the survey period was 1 pound 8 ounces, with smallmouth bass averaging 2 pounds 2 ounces. However, approximately 90 percent of all black bass caught were released.

Striped bass fishing pressure was a close second with 237,094 angler-hours, or 37 percent of all fishing effort, spent fishing for these prized game fish. Anglers targeting striped bass reeled in 23,843 striped bass and kept 15,302, or 64 percent, of those during the survey. All anglers combined caught 39,984 striped bass and kept 19,727, or 49 percent of the striped bass total catch over the course of the survey period. The average weight of harvested striped bass during the survey period was 6 pounds 9 ounces.

Along with helping fisheries biologists gain a better understanding of the fishery in Smith Mountain Lake, this survey also helped answer some important economic questions. Are you wondering what it cost all those anglers, who spent all those hours, chasing all those fish? Well, it's estimated that money spent by all anglers during the entire survey period totaled $3,095,280. Of this, $2,637,178, or 85 percent was spent within 20 miles of the lake. The average cost of a fishing trip at Smith Mountain Lake during the survey was $18.85, with gasoline accounting for the greatest single expense. □

St. Marys' Update

by Dan Genest

Fisheries biologists are excited by the rapid improvements in the water quality of the St. Marys River after it was treated with limestone nearly a year ago.

"We are finding populations of black-nosed daces (a minnow)," said Larry Mohn, a Virginia Department of Game and Inland Fisheries (VDGIF) biologist in Verona. "This tells me the river is coming back a lot faster than we expected."

Once a premiere trout stream, the St. Marys fell victim to acid runoff that caused the pH to tumble from a healthy 6.5 to the low 5s. As a result, many species of insects and minnows disappeared. And that, along with the acidic water, caused the trout population to decline.

Last March, the U.S. Forest Service and VDGIF put 70 tons of limestone, which neutralizes acid, in the headwaters of the St. Marys. Today, the pH level throughout the 12-mile watershed ranges from the low- to mid-6s.

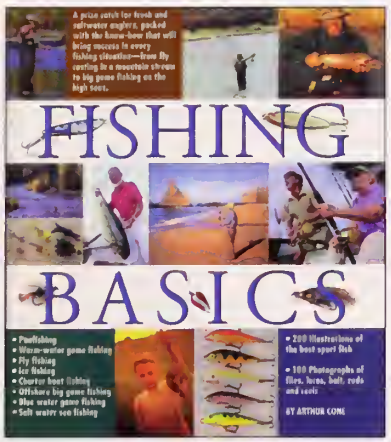
"We are seeing colonies of mayflies and stoneflies that we haven't seen for a long, long time," Mohn said. Combined with two good class years of trout spawning, Mohn said, "We are in good shape at this point. Fishing is as good as it has been in years." □

Book Review

Fishing Basics by Arthur Cone

Long time readers of *Virginia Wildlife* magazine have been treated to the tasty and tantalizing delights

of Joan Cone's outdoor cooking recipes. For more than half a century Joan and her husband, Arthur, have traveled the world in search of hunting and fishing destinations. Together they have spent a lifetime sharing their experiences. To help put the so-called "icing on the cake" Joan would like everyone to know that



Arthur Cone, an accomplished writer and author of numerous books on the outdoors, has just released an updated copy of his 1968 classic, *Fishing Basics*.

Fishing Basics offers novices and experts alike a delightful, wonderfully illustrated, and easily-referenced resource to everything from surf, pier, and jetty fishing to fly-casting and chasing big game on the open seas. Throughout the book readers will find a wealth of knowledge on techniques, fishing wisdom, and insider advice on everything to do with angling.

Packed with 100 photographs and 200 illustrations, *Fishing Basics* covers topics like finding the perfect fishing spot and determining the best time of the day to fish, and includes a handy checklist of the equipment you will need for every type of fishing. Diagrams provide clear instruction on knot-tying, as well as filleting and cleaning your catch. Profiles of sport fish include personality traits and habits, where they are found, what they strike at, and how they fight.

Fishing Basics is the ultimate catch when it comes to learning more about the great sport of fishing and would make the perfect gift for any fishing friend.

Fishing Basics is priced at only $19.98 and can be purchased at most major bookstores or on the internet at **www.amazon.com**. If you would like to purchase a personally autographed copy, send $19.98 (includes shipping) to Arthur Cone, 109 Will Scarlet Lane, Williamsburg, VA 23185. ☐

Write On Target

by Earl Steele, Information Services Specialist

We would like to thank everyone for their participation in making this new column interesting for *Virginia Wildlife* magazine readers. If you have any questions relating to hunting, fishing, boating, regulations, access to Virginia's public lands and waters, or anything concerning Virginia's wildlife species, please write to:

Write on Target
VDGIF - Information Desk
P. O. Box 11104
Richmond, VA. 23230-1104

You can also reach us by email at WriteonTarget@dgif.state.va.us. Or you can call us at (804) 367-9369 between the hours of 8:15 a.m. and 5:00 p.m.

Some of the most challenging questions that we receive deal with licensing requirements and striped bass fishing regulations on the Potomac River. Here are two questions we commonly hear.

What portions of the Potomac River may I fish with a Virginia resident freshwater fishing license?

Virginia resident freshwater license holders may fish all the tributaries (within Virginia borders) of the Potomac River on the Virginia side.

Virginia has reciprocal agreements with the Maryland Department of Natural Resources and the Potomac River Fisheries Commission. The agreement with the Maryland Department of Natural Resources entitles Virginia resident license holders to fish in Maryland:

1) Above Little Falls (upper border with the District of Columbia) to the West Virginia border. Virginia resident anglers may fish the Potomac River and from both banks along this stretch.

2) Anacostia River: downstream of Northeast Branch Bridge at northbound lane of Alternate Rt. 1 (Bladensburg Road), and Northwest Branch Bridge at southbound lane of Rhode Island Avenue.

The agreement with the Potomac River Fisheries Commission entitles Virginia residents to fish in Maryland:

1) On the main stem of the Potomac River between the Woodrow Wilson Bridge and Rt. 301 Bridge

2) Up to demarcation lines on Maryland tributaries between Woodrow Wilson Bridge and 301 bridge (listed in the *2000 Virginia Freshwater Fishing Regulations*).

What regulations apply for keeping striped bass caught from Virginia tributaries (within Virginia borders) of the Potomac River?

Virginia adopts the striped bass regulations set by the Potomac River Fisheries Commission for all Virginia tributaries (within Virginia borders) of the Potomac River.

Striped bass regulations on the Potomac River are set by the Potomac River Fisheries Commission and may be changed at any time.

It is the responsibility of the person fishing to know which licenses are required and all current regulations. When fishing outside Virginia (the Potomac River is part of Maryland), regulations for the appropriate jurisdiction apply. You can reach the Virginia Marine Resource Commission by phone at (800) 541-4646. The Potomac River Fisheries Commission can be reached at (800) 266-3904. The State of Maryland Department of Natural Resources' Saltwater Fisheries Section can be contacted at (410) 260-8280. ☐

On The Water

by Jim Crosby, Region 4 Boater Education Coordinator

Boaters Still Learning

Jerome Ix and I were cruising down Lake Anna toward the dam on a routine Coast Guard Auxiliary safety patrol when we noticed an 18-foot, inboard/outboard runabout being paddled astern off our port beam. They weren't making much way in the wind, chop, and light rain stirred up by Tropical Storm Dennis. We slowed down and turned toward them. As we approached, the smiles were clearly visible. They asked if we had any gas. The question told us a lot about their situation.

Explaining that we did not carry gas onboard, their smiles turned to frowns which quickly returned to smiles when they heard that we were prepared to give them a tow. They said they came out of Duke's Creek Marina. Since we were now at the mouth of Duke's Creek, it was not going to be a long tow.

This was good news because at that point, we were only minutes from a good drenching. We were covered and they were not. The rain storm was following us down the lake. We were running ahead of it trying to beat the dark horizon on our wake.

When we approached the disabled vessel, we asked that everyone onboard put on their personal flotation devices (PFD's)—a Coast Guard requirement prior to taking a vessel in tow. They scrambled through the lockers and came up with four Type IV–Throwable Devices, namely buoyant cushions with straps. When they started to put their arms through the straps to wear the cushions on their backs, I calmly suggested they read the label where it states in big block letters, "Warning—Do Not Wear On Back." I asked them to put on one of their Type I, II, III, or V wearable PFD's that the law requires them to carry for each person onboard. Another scramble through the lockers produced two wearable PFD's for the five persons on board. My patrol companion opened a bag of PFD's and passed three over the gunwale as I explained that the law requires a vessel 16 feet or over to carry one wearable PFD for each person on board plus one throwable device. They responded that they thought the buoyant cushions met the requirements.

Putting that behind us, we then asked for their boat registration noting the Maryland bow number without a current validation sticker. After another search of the boat, the operator, a young man of 16 years, explained that his mother must have all that back at the marina.

When we had them tied safely to the gas dock at Duke's Creek Marina, we again explained we needed to see the boat registration to complete our paperwork. An adult male showed up at the dock to explain that they had not yet registered the boat in Virginia, and did not have the Maryland registration or validating sticker, even though the previous owner had said it was purchased, but never actually applied to the hull. He furnished us a name and a Virginia address for the owner to be put on the report.

We then explained the many boating laws they were operating in violation of and suggested they not go back out on the lake until they were in full compliance. They put $10 worth of gas into the boat and were attempting to get it started when we placed a current copy of the *Virginia Motorboat Owner's Guide* in their hands.

With our mission accomplished, we left them safe and sound at the dock and headed back out onto the lake to make another attempt at getting to our dock ahead of the storm, which had held off its full fury so far.

On the way back, Jerome and I discussed how many laws they were in violation of when we discovered them in trouble on the lake. We are always mystified to find so many boaters totally oblivious of the law and good seamanship. We concluded that, despite the thousands and thousands we have already taught, we still have a big job ahead to teach recreational boaters how to be legal and safe on our waterways.

Editor's Note: This experience is related from a Coast Guard Auxiliary safety patrol on Lake Anna with Jim Crosby, as coxswain, and Jerome Ix, Jr., as crew. Crosby is an employee of VDGIF and works as a Boater Education Coordinator in Region 4. The Game Department has working partnerships with the Coast Guard Auxiliary and U.S. Power Squadron boating instructors to establish a network of qualified instructors across the state. For information about boating and boater instruction, you can call Jeff Decker, the Department's State Boater Education Coordinator at (804) 367-1125. □

Photo Tips

by Lynda Richardson

Photographing Virginia's Fabulous Flora and Fauna!

As you might have seen in the past January 2000 issue of *Virginia Wildlife* magazine, the "Photographing Virginia's Fabulous Fauna" photography contest was a great success, with the most entries ever received in any of our previous contests. This year, at your request, we have added "Fantastic Flowers" to the category list. Here are the categories:

1. *"Birds of a Feather"* Photographs of any bird native to and photographed in Virginia. (No domestic or alien birds, please.) Try to capture birds in motion, whether flying, fighting, or grabbing a meal. Action or behavioral photographs usually win over portrait shots.

2. *"Marvelous Mammals"* Photographs of mammals native to and photographed in Virginia. (No domestic or alien mammals, please.) As with the bird photographs, go for action or behavior instead of portraits.

3. *"Cold and Clammy Critters"* Photographs of animals native to and photographed in Virginia, which aren't the average subjects for photography. Reptiles, amphibians, insects, spiders, and fish are all eligible for this category. Think of a creature you've never photographed before and give it a try.

4. *"Fantastic Flowers"* Photographs of any plant life native to and photographed in Virginia. Scenics and close-ups, which feature plant life, can be included in this new category.

Now for the rules.

1. Each photographer may enter up to five slides per category.

2. All photographs submitted must have been taken in Virginia within the past five years.

3. Photographs may be sent in any slide/transparency format such as 35mm, 2¼ or 4 X 5. If you don't want to send original slides, reproduction quality duplicates are acceptable. Please mark all slides to indicate if they are duplicate or originals and note this on your delivery memo. Color and/or black and white prints up to 5 X 7 may be submitted as well. Please **do not** send prints of photographs scanned on a computer unless they are of high quality. Computer generated photographs that are grainy or show pixilation can not be accepted for judging. We received several in the last contest and the quality was too poor to judge the images fairly. **Do not** submit photographs, which have been digitally manipulated.

Please include your name, address, and phone number on all slides or prints entered.

4. Slides should be submitted in clear plastic storage sheets for ease of handling by the judges.

5. All contest entries must be listed on a piece of paper or "Delivery Memo" with your name, address, and phone number. Each entry must be individually listed on this paper stating the category in which it is entered and any details on how and where the image was taken. If possible, please indicate camera type, make, model, lens, and settings used to take the photograph. Feel free to elaborate on any story surrounding the photograph as well. (If we have space we like to include info on how photographs were taken!)

6. We prefer that all photographs taken are of wild animals or plants in the wild, but will accept photographs of animals or plants taken under "controlled conditions" or in captive situations. Shots of animals or plants in the wild are given preference over captive shots. Wild animals **should not** be captured for the sole purpose of photographs for this contest. If you do photograph captive or "controlled" animals this **must** be stated in the Delivery Memo.

7. All entries must be accompanied by a self addressed, stamped envelope (SASE) for return of your photographs. Submissions without SASE **will not** be returned! If return is by Fed Ex (or other courier) please include a form already filled out with your name, address, and phone number. Please do not send money, checks, or loose stamps.

8. Deadline for submissions is 5:00 p.m. on Friday, October 20, 2000. All submissions, except winning entries, will be mailed back by December 31, 2000. Winning entries will appear in the January 2001 issue of *Virginia Wildlife* magazine, and will be returned by March 30, 2001.

9. Mail your contest entries to: 2000 Photo Tips Contest, c/o *Virginia Wildlife*, P.O. Box 11104, Richmond, VA 23230-1104. Courier address is: 2000 Photo Tips Contest c/o *Virginia Wildlife*, 4010 W. Broad Street, Richmond, VA 23230. I would recommend sending and returning your submission by certified or registered mail, or by a courier, which uses a tracking number to locate lost packages.

10. Neither *Virginia Wildlife* magazine, Lynda Richardson, or any other assigned contest judges will be responsible for the receipt of damaged photographs or the return of photographs not accompanied by a self addressed, stamped envelope.

Now that we've got all that straight...get out there and make some great images! Good luck! □

RECIPES

by Joan Cone

A Striped Bass Dinner for the New Century

Striped bass, also known as rockfish, is recognized as one of the tastiest fish found in the Chesapeake Bay and its tributaries. Loved for its mild, juicy, sweet flavor and firm texture, stripers have enjoyed a successful rebound in population and are now considered recovered by the Atlantic States Marine Fisheries Commission.

Three ounces of cooked striped bass contain the following: fat, 2.5 grams; calories, 103; cholesterol, 85 milligrams and protein, 4 grams.

Menu

Mediterranean Striped Bass
Corn Pudding
Classic Caesar Salad
Orange-Cranberry Cake

Mediterranean Striped Bass

2 pounds striped bass fillets
1 large mild onion, thinly sliced
1 yellow and red pepper, thinly sliced
1 can (28 ounces) Italian plum tomatoes
¼ cup extra virgin olive oil
½ cup fresh basil leaves, coarsely chopped (divided)
Salt and pepper to taste
2 tablespoons fresh lemon juice, lemon peel, thinly sliced in strips

Heat olive oil in electric skillet set at 350°. Sauté onion and bell peppers until crisp and tender, 3 or 4 minutes. Add tomatoes to skillet and blend with vegetables. Add ¼ cup basil leaves, salt and pepper to taste and cook until slightly thickened. Place fish on top of vegetables and cover with lid or aluminum foil. Cook striped bass until opaque and flakes easily, approximately 10 minutes. Sprinkle with lemon juice, lemon peel and remaining basil leaves. Makes 6 servings.

Corn Pudding

2 cans (15¼ ounces each) whole kernel corn, drained
¼ cup flour
1 tablespoon cornmeal
3 tablespoons sugar
3 tablespoons butter or margarine, melted
¾ cup milk
2 large eggs
⅛ teaspoon ground cinnamon
⅛ teaspoon nutmeg
¼ teaspoon vanilla extract

Process 1 can corn in blender until smooth, stopping to scrape down sides. In a large bowl, stir together pureed corn, remaining whole kernel corn, flour, cornmeal, sugar, and melted butter. Whisk together milk, eggs, cinnamon, nutmeg and vanilla. Stir into corn mixture. Pour into a lightly greased shallow 2-quart baking dish. Bake in a 350° preheated oven for 35 minutes or until set. Makes 6 servings.

Classic Caesar Salad

¼ cup extra virgin olive oil
1 clove garlic, minced
1 tablespoon fresh lemon juice
½ teaspoon Worcestershire sauce
Freshly ground black pepper to taste
1 tablespoon chopped anchovy fillets
8 cups torn romaine lettuce
1 cup croutons
½ cup shredded parmesan cheese

Mix together oil, garlic, lemon juice, Worcestershire sauce, pepper, and anchovies. Toss lettuce with oil mixture until coated. Add croutons and cheese and toss lightly. Makes 6 servings.

Orange-Cranberry Cake

½ cup dried cranberries
5 tablespoons fresh orange juice
1 tablespoon finely grated orange zest
2 tablespoons packed light brown sugar
½ cup chopped, toasted pecans
2⅔ cups flour
1 teaspoon baking powder
1 teaspoon baking soda
¼ teaspoon salt
8 tablespoons (1 stick) unsalted butter
4 tablespoons (½ stick) unsalted margarine
1 cup granulated sugar
4 eggs
1 teaspoon vanilla
1 cup plus 2 tablespoons sour cream
2 tablespoons orange marmalade
½ cup confectioners' sugar

In a saucepan over medium-low heat, combine cranberries and 4 tablespoons orange juice and simmer, stirring occasionally, until juice is nearly evaporated; cool and chop finely. In a bowl, combine cranberries, zest, brown sugar and pecans, stir to mix. Preheat oven to 325°F. Grease and flour a bundt cake pan. Mix together flour, baking powder, soda, and salt. In the bowl of an electric mixer, beat butter until creamy. Add sugar and beat until light and fluffy, scraping down sides of bowl. Add eggs one at a time, beating well after each addition; add vanilla. On low speed, fold in dry ingredients in thirds, alternating with sour cream, until just mixed. Spread ⅓ of batter into pan and top with ½ of cranberry mixture; repeat. Spread remaining batter over top. Bake until cake springs back when touched, 50 to 55 minutes. Cool on rack for 5 minutes. Turn cake out onto a rack set over waxed paper. In a saucepan over low heat, melt marmalade with 1 tablespoon orange juice; stir in confectioners' sugar until smooth. Brush cake with glaze. Cool before serving. Makes 16 servings. □

Naturally Wild

story and illustration by Spike Knuth

Tufted Titmouse

The tufted titmouse is another bird that will commonly come to your backyard feeder in winter. This is the little grayish bird with the crest. Its upper parts are a light slate gray, with lighter gray underparts, sometimes with a rusty wash on its flanks. The titmouse has a dark eye that stands out on its light gray face and gives it a mousy appearance, and it has a dark, almost black forehead. It measures about 6 inches long and has a short black bill.

Its song is commonly heard high in a tree—described as "peeta peeta peeta," and it also makes chickadee-like noises—scratchy, scolding calls. Actually it's a close relative of the chickadee being in the family "oscines," and acts very much the same, flocking up with chickadees, downy woodpeckers, brown creepers, nuthatches, and kinglets in winter. Based on my personal observations, it seems they are almost always found in pairs, seldom a single bird.

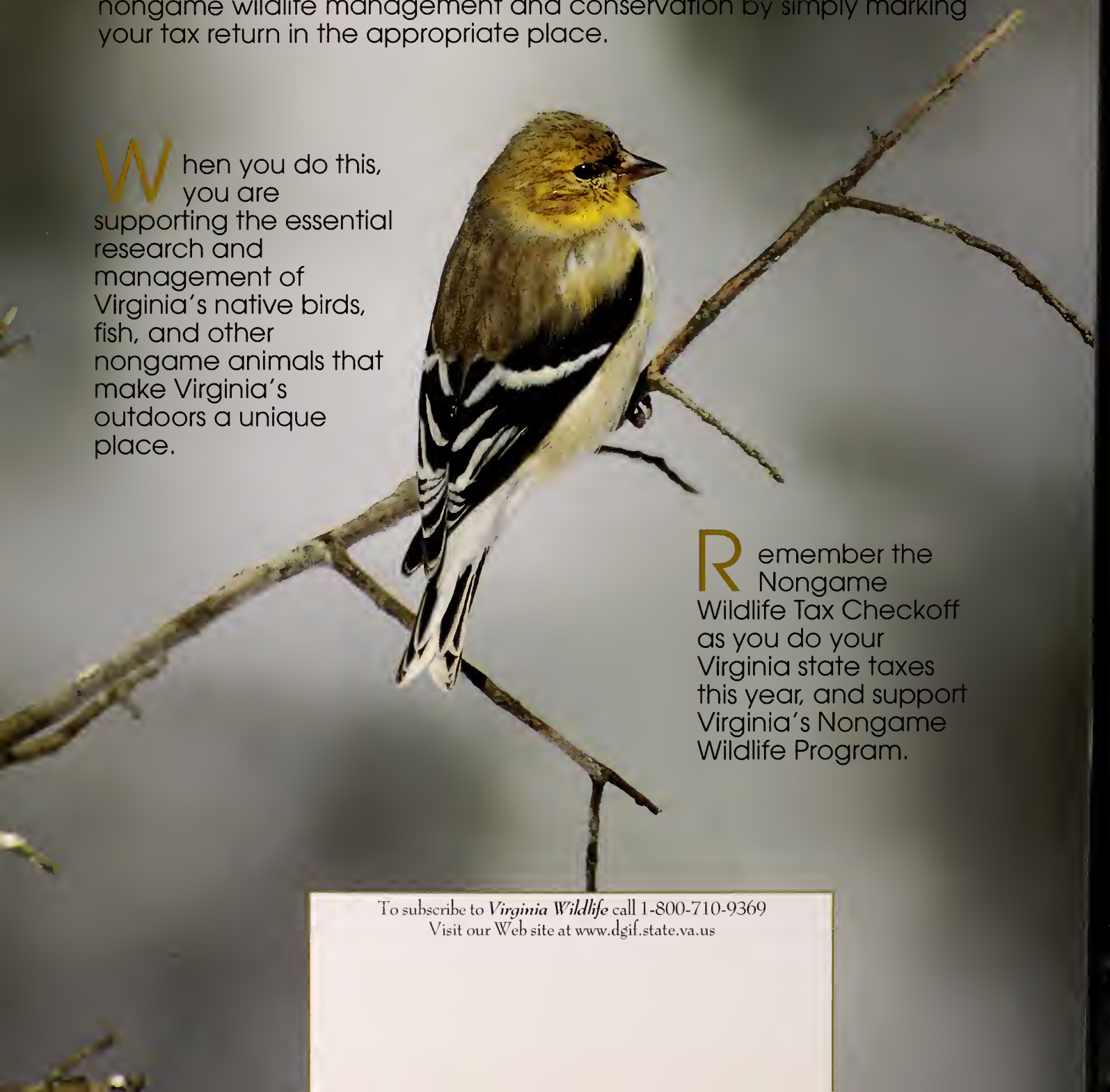
This is another bird that occasionally uses shed snake skins in its nest, which is built in tree cavities using soft vegetation and feathers. Titmice seem to prefer swampy areas to breed and seldom wander too far or too long from woodlands during breeding. If a human wanderer should happen to enter the domain of the little titmouse during breeding, he or she will be bombarded by much scolding and feather ruffling as the little bird tries to act as ferocious as possible.

They feed on insect eggs, insects, insect larvae, small seeds and nuts, and hibernating insects in winter. They will spend all winter with us and commonly come to the feeder to sample sunflower seeds, especially earlier in the winter. Their range includes the eastern edge of the Great Plains to the Atlantic Coast and from the Gulf Coast to the Great Lakes. It has been spreading its range northward in recent decades. □

Remember the Nongame Tax Checkoff

All funds for Virginia's Nongame Wildlife Program are generated by donations and a tax checkoff on the Virginia State Income Tax Form. If you are due a tax refund from the Commonwealth of Virginia, you can take advantage of this opportunity to contribute to nongame wildlife management and conservation by simply marking your tax return in the appropriate place.

When you do this, you are supporting the essential research and management of Virginia's native birds, fish, and other nongame animals that make Virginia's outdoors a unique place.



Remember the Nongame Wildlife Tax Checkoff as you do your Virginia state taxes this year, and support Virginia's Nongame Wildlife Program.

To subscribe to *Virginia Wildlife* call 1-800-710-9369
Visit our Web site at www.dgif.state.va.us